



<http://www.latimes.com/business/la-fi-planedefense25jan25,1,1835193.story>

In Case of Unfriendly Skies

The U.S. pushes for defense systems on passenger planes that would thwart missile attacks

By Peter Pae
Times Staff Writer

January 25, 2004

It wasn't only people with a fear of flying who were horror-struck by the story that came out of Kenya in late 2002. Even the hardiest traveler couldn't help but be spooked.

Farmers living near the airport in the city of Mombasa told reporters that they saw a plane flying overhead, trailed by two objects releasing heavy smoke. A pair of portable surface-to-air missiles fired by suspected Al Qaeda terrorists had narrowly missed the Israeli passenger jet.

Now, the U.S. Department of Homeland Security is determined to protect commercial aircraft from such threats.

The department has given three companies — **Northrop Grumman Corp.**, **BAE Systems Inc.** and **UAL Corp.**'s United Airlines — six months to come up with plans to develop and install missile defense systems on passenger jets.

The department expects to award one company, or possibly two, a contract that could be valued at more than \$1 billion initially — and far more over the long haul if the government mandates that all 6,800 commercial aircraft in service be fitted with the equipment. The cost of the gear, expected to be similar to the kind used by military fighters and bombers, could reach \$1 million per plane.

The call for arming passenger jets has intensified in recent months after three incidents in Iraq in which two U.S. military transports and a DHL cargo plane were attacked by insurgents. They fired rockets from portable launchers perched on their shoulders.

Although there were no injuries to passengers or crew, the jets incurred extensive damage. In the DHL incident, a missile blew off a portion of one wing as the plane took off from Baghdad International Airport in November.

The episodes heightened concerns that U.S. passenger planes are similarly vulnerable as they fly across the globe, and prompted calls in Congress for action.

"Lots of people have been worried about it for some time, but now you see a considerable amount of support" for coming up with a technical response, said Christopher Bolkcom,

aviation analyst for the Congressional Research Service.

No U.S. passenger jet has been fired upon, authorities say. But the Transportation Security Administration says that since 1979, 35 foreign-operated civilian aircraft, many of them in war-torn parts of Africa, have been attacked by shoulder-fired missiles. Two dozen were shot down, killing 640 passengers.

Some analysts estimate that there are nearly 500,000 shoulder-fired missiles in circulation today. Armed forces around the world control most of them. But many have fallen into the hands of well-known terrorist groups, including Al Qaeda.

Loren Thompson, a defense analyst for the Lexington Institute, an Arlington, Va., think tank, figures that more than two dozen terrorist organizations possess portable missiles. Typically weighing 30 to 40 pounds and extending about 5 to 6 feet, they are guided by infrared sensors that home in on hot plumes of exhaust emitted by jet engines.

They Come Cheap

Not only are they easy to use, Thompson notes, they're cheap. Depending on how sophisticated it is, a missile on the black market commands only \$5,000 or so — less than the cost of a round-trip business-class flight between Los Angeles and London.

"The missiles," Thompson said, "are quite common."

To U.S. officials, the most alarming statistics emerged during operations in Afghanistan, where coalition forces captured more than 5,500 shoulder-fired missiles from Taliban and Al Qaeda operatives. Many of them were Russian-made weapons left over from the Soviet Union's occupation of Afghanistan in the 1980s.

Intelligence officials believe a similar number of missiles are in Iraq, but only a third of them have been accounted for. Since President Bush declared an end to major combat operations in May, Iraqi insurgents apparently have used the missiles in more than 20 attacks, most of them against slow-moving, low-altitude helicopters.

U.S. officials started paying more attention to the danger in November 2002, when the Israeli plane in Kenya, a chartered Boeing 767, was fired upon while taking off.

'A Wake-Up Call'

"Unlike the prior attacks on jet airliners that occurred in war-torn areas, the Mombasa attack was clearly politically motivated, believed to have been carried out by terrorists with links to Al Qaeda," Bolckcom said. "It was a wake-up call for Congress and the Bush administration."

Sen. Barbara Boxer (D-Calif.) and Rep. Steve Israel (D-N.Y.) have introduced legislation to require U.S. airlines to outfit their fleets with antimissile systems.

Not all of them would work the same way.

United Airlines — which is partnering with Austin, Texas-based defense contractor **Avisys** Inc. — is proposing a conventional decoy system that would lead missiles astray.

Once sensors detected a missile, a small dispenser fitted on the sides of the fuselage would eject flare-like decoys that would ignite and thereby lure the heat-seeking weapon away from the aircraft. The ignited decoy, no bigger than a pencil case, would burn up in just two to three seconds — so fast that a person could barely see it. To the missile, however, the decoy would appear like the exhaust of a jet engine.

In fact, said Jim Carey, vice president of infrared programs for Avisys, the decoys are "more desirable to the missile than the engine."

Laser Technology

As for Northrop and BAE, they are turning to laser technology that they've used on military projects.

Both companies are proposing to build a canoe-like pod that would fit under the belly of an airliner and search out missiles. Sensors encased in the pod would maintain a vigil around the plane.

Whenever a threat was detected, a laser encased in a small turret toward the front of the pod would track the missile and then fire an intense infrared beam at the missile's guidance system. That would blind the weapon and throw it off course.

Tests of the military version of the pod system have been highly effective, according to Jack Pledger, Northrop's director of Infrared Countermeasures Business Development. In more than 100 live tests at White Sands missile range in New Mexico, he said, "we have never failed to defeat a missile that we were directed to jam."

If you want other stories on this topic, search the Archives at latimes.com/archives.



[Click here for article licensing and reprint options](#)

Copyright 2004 Los Angeles Times